

AMENDMENTS TO THE CLAIMS

1. (Original) A fiber-to-the-home (FTTH) system for transmitting and receiving IP signals, having a forward path the FTTH system including a headend facility in communication with a plurality of subscriber premises, each subscriber premises comprising:

an optical network terminal (ONT) for receiving downstream and upstream IP signals and for routing the IP signals to a coupled device or the FTTH system;

a receiving device including a QAM modulator for receiving downstream IP signals from the optical network terminal and for providing upstream IP signals to the optical network terminal, wherein the IP signals comprise video, audio, and data signals the receiving device comprising:

an Ethernet switch for routing downstream IP signals; and

a modulator for receiving downstream IP video and audio signals from the Ethernet switch, the modulator for modulating the IP video and audio signals to provide RF signals; and

the QAM modulator for receiving and modulating IP video and audio signals to provide RF video and audio signals; and

at least one digital home communications terminal (DHCT) for receiving the RF video signals from the modulator.

2. (Currently Amended) The FTTH system of claim 1, wherein the receiving device ~~further comprises a switch for providing the IP video and audio signals to the QAM modulator via a QAM modulator address, and for providing IP data signals to a computer via a computer address.~~

3. (Currently Amended) The FTTH system of claim 1, ~~further comprising an~~ wherein the optical network terminal ~~located in close proximity to the at least one DHCT for providing the IP video and audio signals to the receiving device and for providing IP telephone signals to a coupled telephone.~~

4. (Currently Amended) The FTTH system of claim 1, further comprises a reverse path, comprising:

the at least one ~~DHCT digital home communications terminal~~ (DHCT) for transmitting reverse RF signals, the reverse RF signals including header information and payload data;

the receiving device for receiving the reverse RF signals, demodulating the reverse RF signals, and converting the demodulated signals to Ethernet signals;

~~an optical network terminal (ONT) coupled to the receiving device~~ the ONT for converting the Ethernet signals to optical signals, and for transmitting the optical signals to a the headend facility via optical fiber; and

a downstream modulator located in the headend facility for receiving the optical signals and for sending the forward signals, the downstream modulator having an identification number that is inserted into the forward signals,

wherein the at least one DHCT inserts the received modulator identification number in the reverse header information, and wherein the ~~SWRD~~ receiving device converts the modulator identification number into an Internet Protocol address indicative of the modulator identification number.

5. (Currently Amended) The FTTH system of claim 4, the receiving device further comprising:
an upstream demodulator coupled to ~~the~~ a diplex filter for demodulating the reverse RF signals;
a microprocessor for converting the demodulated signals ~~to~~ into the Ethernet signals and for providing the Ethernet signals to the switch; and
the switch for receiving the Ethernet signals and any additional signals from a second source, the switch for combining the signals and for providing a combined signal to the ONT.

6. (Currently Amended) The FTTH system of claim 5, wherein the ~~SWRD~~ receiving device converts the identification number into the Internet Protocol number via the microprocessor.

7. (Currently Amended) A method for transmitting and receiving IP signals in a fiber-to-the-home (FTTH) network, the IP signals including video, audio, voice, and data signals, the FTTH network including a forward path and a reverse path, the method comprising the steps of:

transmitting unmodulated IP signals to a plurality of subscriber premises;
receiving the unmodulated IP signals at an optical network terminal (ONT) located at each of the plurality of subscriber premises, the unmodulated IP signals including unmodulated IP data signals and IP video and audio signals;

providing the unmodulated IP video and audio signals to a switch included in a single wire return device (SWRD), ~~wherein the switch provides the unmodulated IP video and audio signals to a QAM modulator in the SWRD;~~

modulating the IP video and audio signals at a QAM modulator in the SWRD to provide modulated video and audio signals; ~~for viewing on conventional DHCTs.~~

providing the modulated signals to a demodulator in a DHCT; and
demodulating the modulated video and audio signals.

8. (Original) The method of claim 7, further comprising the step of providing the IP data signals to the switch, wherein the switch provides the IP data signals to a coupled computer.

9. (Currently Amended) The method of claim 7, further comprising the steps of:
generating a reverse RF modulated signal including an identification number ~~header information~~
~~in~~ at the DHCT;
providing the reverse RF modulated signal via coaxial cable to the SWRD;
demodulating the reverse RF modulated signal to provide a reverse demodulated signal;
processing the reverse demodulated signal to provide a reverse Ethernet signal;
converting the reverse Ethernet signal to a reverse optical signal in the ONT; and
receiving the reverse optical signal at a downstream modulator corresponding to the identification
number located in a headend facility,
wherein the downstream modulator transmits a forward signal in response to the received reverse
optical signal.
10. (Currently Amended) The FTTH system of claim 9, wherein the downstream modulator includes
~~an~~ the identification number that is inserted into forward signals transmitted in the forward path and
stored in the DHCT ~~DCT~~, and wherein the DHCT ~~DCT~~ inserts the received identification number into ~~the~~
reverse header information prior to transmitting to the SWRD.
11. (Original) The FTTH system of claim 10, wherein the SWRD converts the identification number
into an Internet Protocol address that is indicative of the identification number.